

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (Currently Amended). A compound comprising a plurality of linked nucleosides, wherein:

each nucleoside includes a pentofuranosyl sugar portion and a base portion; and

at least one of said nucleosides bears at a 2'-O-position, a 3'-O-position, or a 5'-O-position a terminal substituent having formula:



where:

R_A is alkyl having from 1 to about 10 carbon atoms or $(\text{CH}_2-\text{CH}_2-\text{Q})_x$;

R_{1a} and R_{1b} , independently, are H, R_2 , or an amine protecting group or have formula $\text{C}(\text{X})-\text{R}_2$, $\text{C}(\text{X})-\text{R}_A-\text{R}_2$, $\text{C}(\text{X})-\text{Q}-\text{R}_A-\text{R}_2$, $\text{C}(\text{X})-\text{Q}-\text{R}_2$; and

R_2 is a folate, a steroid molecule, a reporter molecule, a lipophilic molecule, a reporter enzyme, a peptide, a protein, or has formula $-\text{Q}-(\text{CH}_2\text{CH}_2-\text{Q}-)_x-\text{R}_3$;

X is O or S;

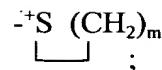
each Q is, independently, is NH, O, or S;

x is about 1 to about 50;

R_3 is H, R_A , $\text{C}(\text{O})\text{OH}$, $\text{C}(\text{O})\text{OR}_A$, $\text{C}(\text{O})\text{R}_4$, R_A-N_3 , or R_A-NH_2 ;

R_4 is Cl, Br, I, SO_2R_5 or has structure:





m is 2 to 7; and

R₅ alkyl having 1 to about 10 carbon atoms.

2 (Original). The compound of claim 1 wherein more than one of said nucleosides bear said substituent at a 2'-O-position, a 3'-O-position, or a 5'-O-position.

3 (Original). The compound of claim 1 wherein R_A is (CH₂)_n where n is an integer from 1 to about 10.

4 (Original). The compound of claim 3 wherein n is 6.

5 (Original). The compound of claim 1 wherein said R_{1a} is H and R_{1b}, together, are phthalimido.

6 (Original). The compound of claim 1 wherein R_{1a} is H and R_{1b} is C(O)-(CH₂)_n-R₂ where n is an integer from 1 to about 10.

7 (Original). The compound of claim 1 wherein R_{1a} is H and R_{1b} is R₂.

8 (Original). The compound of claim 1 wherein R_{1a} is H and R_{1b} is C(O)-O-R₂.

9 (Original). The compound of claim 1 wherein R_{1a} and R_{1b} both are alkyl.

10 (Original). The compound of claim 1 wherein R_{1a} is H and R_{1b} is C(O)-(CH₂)_n-R₂ where n is an integer from 1 to about 10.

11 (Original). The compound of claim 10 wherein R₂ has formula -(CH₂)₅-NH-.

12 (Original). The compound of claim 1 wherein R_{1a} is H and R_{1b} is C(S)-NH-R₂.

13 (Original). The compound of claim 1 wherein R₂ includes pyrene, fluorescein, dinitrophenyl, cholesterol, acridine.

14 (Original). The compound of claim 1 wherein R_{1a} is H and R_{1b} is C(O)-R₂.

15 (Original). The compound of claim 14 wherein R₂ has formula -O-(CH₂CH₂-O-)_x-R₃.

16 (Currently Amended). A nucleoside comprising a pentofuranosyl sugar portion and a base portion, wherein said nucleoside bears at a 2'-O-position, a 3'-O-position, or a 5'-O-position a substituent having the formula:



where:

R_A is alkyl having from 1 to about 10 carbon atoms;

R_{1a} and R_{1b} , independently, are H, R_2 , or an amine protecting group or have formula $\text{C}(\text{X})\text{-R}_2$, $\text{C}(\text{X})\text{-R}_A\text{-R}_2$, $\text{C}(\text{X})\text{-Q-R}_A\text{-R}_2$, $\text{C}(\text{X})\text{-Q-R}_2$; and

R_2 is a steroid molecule, a reporter molecule, a lipophilic molecule, a reporter enzyme, a peptide, a protein, or has formula $-\text{Q-(CH}_2\text{CH}_2\text{-Q-)}_x\text{-R}_3$;

X is O or S;

each Q is, independently, is NH, O, or S;

x is about 1 to about 50;

R_3 is H, R_A , $\text{C}(\text{O})\text{OH}$, $\text{C}(\text{O})\text{OR}_A$, $\text{C}(\text{O})\text{R}_4$, $\text{R}_A\text{-N}_3$, or $\text{R}_A\text{-NH}_2$; and

R_4 is Cl, Br, I, SO_2R_5 or has structure:



m is 2 to 7; and

R_5 alkyl having 1 to about 10 carbon atoms.

17 (Currently Amended). The nucleoside of claim 16 wherein R_A is (CH₂)_n where n is an integer from 1 to about 10.

18 (Currently Amended). The nucleoside of claim 16 wherein n is 6.

19 (Currently Amended). The nucleoside of claim 16 wherein said R_{1a} is H and R_{1b}, together are phthalamido.

20 (Currently Amended). The nucleoside of claim 16 wherein R_{1a} is H and R_{1b} is C(O)-(CH₂)_n-R₂ where n is an integer from 1 to about 10.

21 (Currently Amended). The nucleoside of claim 16 wherein R_{1a} is H and R_{1b} is R₂.

22 (Currently Amended). The nucleoside of claim 16 wherein R_{1a} is H and R_{1b} is C(O)-O-R₂.

23 (Currently Amended). The nucleoside of claim 16 wherein R_{1a} and R_{1b} both are alkyl.

24 (Currently Amended). The nucleoside of claim 16 wherein R_{1a} is H and R_{1b} is C(O)-(CH₂)_n-R₂ where n is an integer from 1 to about 10.

25 (Currently Amended). The nucleoside of claim 24 wherein R₂ has formula -(CH₂)₅-NH-.

26 (Currently Amended). The nucleoside of claim 16 wherein R_{1a} is H and R_{1b} is C(S)-NH-R₂.

27 (Currently Amended). The nucleoside of claim 16 wherein R₂ includes pyrene, fluorescein, dinitrophenyl, cholesterol, acridine.

28 (Currently Amended). The nucleoside of claim 16 wherein R_{1a} is H and R_{1b} is C(O)-R₂.

29 (Currently Amended). The nucleoside of claim 28 wherein R₂ has formula -O-(CH₂CH₂-O-)_x-R₃.

Claims 30-35 (Canceled).